



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/629,286	07/29/2003	Patrick D. McCusker	03CR166/KE	5711
7590	01/13/2005		EXAMINER	
			BROADHEAD, BRIAN J	
			ART UNIT	PAPER NUMBER
			3661	

ROCKWELL COLLINS, INC.  
Attention: Kyle Epple  
M/S 124-323  
400 Collins Rd. NE  
Cedar Rapids, IA 52498

DATE MAILED: 01/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/629,286	MCCUSKER ET AL.	

<b>Examiner</b>	<b>Art Unit</b>	
Brian J. Broadhead	3661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 29 July 2003.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-20 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-20 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 29 July 2003 is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>7-29-03</u> .	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1 through 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Ybarra et al., 2004/0068372.
3. As per claims 1-18, and 20, Ybarra et al. disclose predicting an intended path of the aircraft, identifying a potential hazard to the aircraft along the intended path in paragraph 18; determining a distance from the potential hazard that the aircraft is required to maintain in table 34; determining an ability of the aircraft to maneuver to avoid the identified hazard and to remain further from the identified hazard than the distance in paragraph 18; determining a probability that the aircraft will not maintain the distance from the identified hazards and alerting a pilot of the aircraft if the probability is greater than a predetermined level in paragraph 33; receiving inputs representative of a weather event proximal the aircraft and receiving inputs representative of an aircraft proximal the aircraft in paragraph 18; identifying a potential hazard further includes accessing information representative of elevations of terrain proximal the aircraft in paragraph 18; the ability of the aircraft to maneuver comprises accessing a database of

aircraft performance characteristics that includes at least one of aircraft climb rate, aircraft ceiling, and aircraft range in paragraph 6 and 7; determining the ability of the aircraft to maneuver further comprises analyzing inputs from a plurality of aircraft sensors to ascertain a current configuration of the aircraft in paragraph 9; the aircraft sensors measure at least one of an aircraft flap position, an aircraft slat position, a landing gear position, a throttle position, an engine-out status for any engine of the aircraft, and a gross vehicle weight of the aircraft in paragraph 24; determining the ability of the aircraft to maneuver further comprises determining the current operating state of the aircraft determining in paragraph 9; the current operating state includes determining at least two of a current altitude of the aircraft, a current attitude of the aircraft, an altitude rate, an attitude rate, a current heading of the aircraft, a heading rate, a current speed of the aircraft, an engine pressure ratio for any engine of the aircraft, engine temperature, an RPM of an engine of the aircraft, and remaining fuel in the aircraft in paragraph 9; predicting an intended path of the aircraft includes obtaining input from an onboard avionics navigation system in paragraph 21; alerting the pilot includes highlighting at least one of a graphical representation of the potential hazard, and at least part of a graphical representation of the intended path of the aircraft in paragraph 25; and accessing information relative to areas of restricted airspace proximal the aircraft; accessing separation information that provides a distance by which the aircraft must be separated from the restricted airspace; determining a possibility that the aircraft, traveling along the intended path, will be less than the distance from the

Art Unit: 3661

restricted airspace, and advising a pilot of the aircraft if the possibility is above a predetermined threshold in paragraph 18. Restricted airspace is a traffic condition.

4. As per claim 19, the invention of Ybarra et al. is capable of providing a plurality of warnings of two weather events, aircraft traffic and terrain. This is functional language.

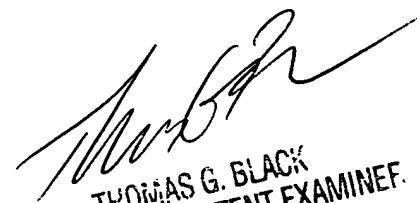
### **Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian J. Broadhead whose telephone number is 703-308-9033. The examiner can normally be reached on Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black can be reached on 703-305-8233. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
BJB

  
THOMAS G. BLACK  
SUPERVISORY PATENT EXAMINER  
GROUP 3661